

#8



SEQUENCE LISTING

<110> EINAT, Paz
SKALITER, Rami
FEINSTEIN, Elena

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<151> 1999-08-27

<150> US 09/138,109

<151> 1998-08-21

<150> US 60/098,158

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<150> US 60/132,684

<151> 1999-05-05

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35 40 45
Pro Glu Asn Tyr Val Pro Thr Val Phe Glu Asn Tyr Thr Ala Ser Phe
50 55 60
Glu Ile Asp Thr Gln Arg Ile Glu Leu Ser Leu Trp Asp Thr Ser Gly
65 70 75 80
Ser Pro Tyr Tyr Asp Asn Val Arg Pro Leu Ser Tyr Pro Asp Ser Asp
85 90 95
Ala Val Leu Ile Cys Phe Asp Ile Ser Arg Pro Glu Thr Leu Asp Ser
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Val Leu Lys Lys Trp Xaa Gly Glu Ile Gln Glu Phe Cys Pro Asn Thr
115 120 125
Lys Met Leu Leu Val Gly Cys Lys Ser Asp Leu Arg Thr Asp Val Ser
130 135 140
Thr Leu Val Glu Leu Ser Asn His Arg Gln Thr Pro Val Ser Tyr Asp
145 150 155 160
Gln Gly Ala Asn Met Ala Lys Gln Ile Gly Ala Ala Thr Tyr Ile Glu
165 170 175
Cys Ser Ala Leu Gln Ser Glu Asn Ser Val Arg Asp Ile Phe His Val
180 185 190
Ala Thr Leu Ala Cys Val Asn Lys Thr Asn Lys Asn Val Lys Arg Asn
195 200 205
Lys Ser Gln Arg Ala Thr Lys Arg Ile Ser His Met Pro Ser Arg Pro
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ctc cac ccc tgg aat ccc tgt ctg ggt gcg gac tcg gag aag ccc tcg	96
Leu His Pro Trp Asn Pro Cys Leu Gly Ala Asp Ser Glu Lys Pro Ser	
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agc atc ccc aca gat aaa tta tta gtc ata act gta gca aca aaa gaa	144
Ser Ile Pro Thr Asp Lys Leu Leu Val Ile Thr Val Ala Thr Lys Glu	
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Ser Asp Gly Phe His Arg Phe Met Gln Ser Ala Lys Tyr Phe Asn Tyr	
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Thr Val Lys Val Leu Gly Gln Gly Glu Glu Trp Arg Gly Gly Asp Gly	
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Ile Asn Ser Ile Gly Gly Gly Gln Lys Val Arg Leu Met Lys Glu Val	
85 90 95	
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Met Glu His Tyr Ala Asp Gln Asp Asp Leu Val Val Met Phe Thr Glu	
100 105 110	
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Cys Phe Asp Val Ile Phe Ala Gly Gly Pro Glu Glu Val Leu Lys Lys	
115 120 125	
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Phe Gln Lys Ala Asn His Lys Val Val Phe Ala Ala Asp Gly Ile Leu	
130 135 140	
tgg cca gat aaa aga cta gca gac aag tat cct gtt gtg cac att ggg	480
Trp Pro Asp Lys Arg Leu Ala Asp Lys Tyr Pro Val Val His Ile Gly	
145 150 155 160	
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Lys Arg Tyr Leu Asn Ser Gly Gly Phe Ile Gly Tyr Ala Pro Tyr Val	
165 170 175	
aac cgt ata gtt caa caa tgg aat ctc cag gat aat gat gat gat cag	576
Asn Arg Ile Val Gln Gln Trp Asn Leu Gln Asp Asn Asp Asp Asp Gln	
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Leu Phe Tyr Thr Lys Val Tyr Ile Asp Pro Leu Lys Arg Glu Ala Ile	
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Asn Ile Thr Leu Asp His Lys Cys Lys Ile Phe Gln Thr Leu Asn Gly	
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ccc acc aag att ctc ctg aat tat ttt gga aac tat gta ccc aat tca Pro Thr Lys Ile Leu Leu Asn Tyr Phe Gly Asn Tyr Val Pro Asn Ser 260 265 270	816
tgg aca cag gat aat ggc tgc act ctt tgt gaa ttc gat aca gtc gac Trp Thr Gln Asp Asn Gly Cys Thr Leu Cys Glu Phe Asp Thr Val Asp 275 280 285	864
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gaa atc aaa act ata aaa ata gta gga cca gaa gaa aat cta agt caa Glu Ile Lys Thr Ile Lys Ile Val Gly Pro Glu Glu Asn Leu Ser Gln 355 360 365	1104
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Tyr Phe Val Arg Asp Lys Leu Asp Pro Asp Met Ala Leu Cys Arg Asn			
	485	490	495
gct aga gaa atg act tta caa agg gaa aaa gac tcc cct act ccg gaa			1536
Ala Arg Glu Met Thr Leu Gln Arg Glu Lys Asp Ser Pro Thr Pro Glu			
	500	505	510
aca ttc caa atg ctc agc ccc cca aag ggt gta ttt atg tac att tct			1584
Thr Phe Gln Met Leu Ser Pro Pro Lys Gly Val Phe Met Tyr Ile Ser			
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aat aga cat gaa ttt gga agg cta tta tcc act gct aat tac aat act			1632
Asn Arg His Glu Phe Gly Arg Leu Leu Ser Thr Ala Asn Tyr Asn Thr			
	530	535	540
tcc cat tat aac aat gac ctc tgg cag att ttt gaa aat cct gtg gac			1680
Ser His Tyr Asn Asn Asp Leu Trp Gln Ile Phe Glu Asn Pro Val Asp			
545	550	555	560
tgg aag gaa aag tat ata aac cgt gat tat tca aag att ttc act gaa			1728
Trp Lys Glu Lys Tyr Ile Asn Arg Asp Tyr Ser Lys Ile Phe Thr Glu			
	565	570	575
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Asn Ile Val Glu Gln Pro Cys Pro Asp Val Phe Trp Phe Pro Ile Phe			
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Ser Glu Lys Ala Cys Asp Glu Leu Val Glu Glu Met Glu His Tyr Gly			
	595	600	605
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Lys Trp Ser Gly Gly Lys His His Asp Ser Arg Ile Ser Gly Gly Tyr			
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Glu Asn Val Pro Thr Asp Asp Ile His Met Lys Gln Val Asp Leu Glu			
	625	630	635
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Asn Val Trp Leu His Phe Ile Arg Glu Phe Ile Ala Pro Val Thr Leu			
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aag gtc ttt gca ggc tat tat acg aag gga ttt gca cta ctg aat ttt			2016
Lys Val Phe Ala Gly Tyr Tyr Thr Lys Gly Phe Ala Leu Leu Asn Phe			
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gta gta aaa tac tcc cct gaa cga cag cgt tct ctt cgt cct cat cat			2064
Val Val Lys Tyr Ser Pro Glu Arg Gln Arg Ser Leu Arg Pro His His			
	675	680	685

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690 695 700

gac ttt cag gga ggt ggt tgc aaa ttt cta agg tac aat tgc tct att 2160
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725 730 735

cat ttg cat gaa gga ctt cct gtt aaa aat gga aca aga tac att gca 2256
His Leu His Glu Gly Leu Pro Val Lys Asn Gly Thr Arg Tyr Ile Ala
740 745 750

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Val Ser Phe Ile Asp Pro
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Thr Val Lys Val Leu Gly Gln Gly Glu Glu Trp Arg Gly Gly Asp Gly
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Met Glu His Tyr Ala Asp Gln Asp Asp Leu Val Val Met Phe Thr Glu
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Cys Phe Asp Val Ile Phe Ala Gly Gly Pro Glu Glu Val Leu Lys Lys
 115 120 125

Phe Gln Lys Ala Asn His Lys Val Val Phe Ala Ala Asp Gly Ile Leu
 130 135 140

Trp Pro Asp Lys Arg Leu Ala Asp Lys Tyr Pro Val Val His Ile Gly
 145 150 155 160

Lys Arg Tyr Leu Asn Ser Gly Gly Phe Ile Gly Tyr Ala Pro Tyr Val
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 180 185 190

Leu Phe Tyr Thr Lys Val Tyr Ile Asp Pro Leu Lys Arg Glu Ala Ile
 195 200 205

Asn Ile Thr Leu Asp His Lys Cys Lys Ile Phe Gln Thr Leu Asn Gly
 210 215 220

Ala Val Asp Glu Val Val Leu Lys Phe Glu Asn Gly Lys Ala Arg Ala
 225 230 235 240

Lys Asn Thr Phe Tyr Glu Thr Leu Pro Val Ala Ile Asn Gly Asn Gly
 245 250 255

Pro Thr Lys Ile Leu Leu Asn Tyr Phe Gly Asn Tyr Val Pro Asn Ser
 260 265 270

Trp Thr Gln Asp Asn Gly Cys Thr Leu Cys Glu Phe Asp Thr Val Asp
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Glu Gln Pro Thr Pro Phe Leu Pro Arg Phe Leu Asp Ile Leu Leu Thr
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 325 330 335

Val Tyr His Glu Lys Asp Ile Lys Val Phe Phe Asp Lys Ala Lys His
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Glu Ile Lys Thr Ile Lys Ile Val Gly Pro Glu Glu Asn Leu Ser Gln
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Ala Glu Ala Arg Asn Met Gly Met Asp Phe Cys Arg Gln Asp Glu Lys
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Cys Asp Tyr Tyr Phe Ser Val Asp Ala Asp Val Val Leu Thr Asn Pro
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Arg Thr Leu Lys Ile Leu Ile Glu Gln Asn Arg Lys Ile Ile Ala Pro
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Glu Asn Val Pro Thr Asp Asp Ile His Met Lys Gln Val Asp Leu Glu
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Asn Val Trp Leu His Phe Ile Arg Glu Phe Ile Ala Pro Val Thr Leu
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Lys Val Phe Ala Gly Tyr Tyr Thr Lys Gly Phe Ala Leu Leu Asn Phe
660 665 670

Val Val Lys Tyr Ser Pro Glu Arg Gln Arg Ser Leu Arg Pro His His
675 680 685

Asp Ala Ser Thr Phe Thr Ile Asn Ile Ala Leu Asn Asn Val Gly Glu
690 695 700

Asp Phe Gln Gly Gly Gly Cys Lys Phe Leu Arg Tyr Asn Cys Ser Ile
705 710 715 720

Glu Ser Pro Arg Lys Gly Trp Ser Phe Met His Pro Gly Arg Leu Thr
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Leu His Pro Trp Asn Pro Cys Leu Gly Ala Asp Ser Glu Lys Pro Ser	
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Ser Ile Pro Thr Asp Lys Leu Leu Val Ile Thr Val Ala Thr Lys Glu	
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Ser Asp Gly Phe His Arg Phe Met Gln Ser Ala Lys Tyr Phe Asn Tyr	
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Ile Asn Ser Ile Gly Gly Gly Gln Lys Val Arg Leu Met Lys Glu Val	
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Met Glu His Tyr Ala Asp Gln Asp Asp Leu Val Val Met Phe Thr Glu	
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Cys Phe Asp Val Ile Phe Ala Gly Gly Pro Glu Glu Val Leu Lys Lys	
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Trp Pro Asp Lys Arg Leu Ala Asp Lys Tyr Pro Val Val His Ile Gly	
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Lys Arg Tyr Leu Asn Ser Gly Gly Phe Ile Gly Tyr Ala Pro Tyr Val	
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Asn Arg Ile Val Gln Gln Trp Asn Leu Gln Asp Asn Asp Asp Asp Gln	
180 185 190	

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gag caa cca acc cct ttt cta cct cgg ttt ctg gac ata ttg ttg aca Glu Gln Pro Thr Pro Phe Leu Pro Arg Phe Leu Asp Ile Leu Leu Thr 305 310 315 320			960
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Ile Asn Ser Ile Gly Gly Gly Gln Lys Val Arg Leu Met Lys Glu Val			
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Cys Phe Asp Val Ile Phe Ala Gly Gly Pro Glu Glu Val Leu Lys Lys
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Trp Pro Asp Lys Arg Leu Ala Asp Lys Tyr Pro Val Val His Ile Gly
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Lys Arg Tyr Leu Asn Ser Gly Gly Phe Ile Gly Tyr Ala Pro Tyr Val
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Asn Arg Ile Val Gln Gln Trp Asn Leu Gln Asp Asn Asp Asp Asp Gln
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Leu Phe Tyr Thr Lys Val Tyr Ile Asp Pro Leu Lys Arg Glu Ala Ile
 195 200 205

Asn Ile Thr Leu Asp His Lys Cys Lys Ile Phe Gln Thr Leu Asn Gly
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Pro Thr Lys Ile Leu Leu Asn Tyr Phe Gly Asn Tyr Val Pro Asn Ser
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Val Tyr His Glu Lys Asp Ile Lys Val Phe Phe Asp Lys Ala Lys His
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Ser His Tyr Asn Asn Asp Leu Trp Gln Ile Phe Glu Asn Pro Val Asp
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Trp Lys Glu Lys Tyr Ile Asn Arg Asp Tyr Ser Lys Ile Phe Thr Glu
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Ser Glu Lys Ala Cys Asp Glu Leu Val Glu Glu Met Glu His Tyr Gly
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Lys Trp Ser Gly Gly Lys His His Asp Ser Arg Ile Ser Gly Gly Tyr
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Asn Val Trp Leu His Phe Ile Arg Glu Phe Ile Ala Pro Val Thr Leu
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Gly Gly Gln Lys Val Arg Leu Met Lys Glu Ala Met Glu His Tyr Ala	
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Gly Gln Asp Asp Leu Val Ile Leu Phe Thr Glu Cys Phe Asp Val Ile	
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Gly Cys Lys Phe Leu Arg Tyr Asn Cys Ser Ile Glu Ser Pro Arg Lys	
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Gly Trp Ser Phe Met His Pro Gly Arg Leu Thr His Leu His Glu Gly	
730 735 740	
ctt cct gtc aaa aat gga aca aga tac att gca gtc tca ttt	2486
Leu Pro Val Lys Asn Gly Thr Arg Tyr Ile Ala Val Ser Phe	
745 750 755	
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atgttttaggt acaaaggcat gaatgataat cagtaagcct aataatattt tcttatttaa	2846
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<211> 755
<212> PRT
<213> Rattus rattus

<400> 13

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Arg Ile Pro Ala Asp Lys Leu Leu Val Ile Thr Val Ala Thr Lys Glu
35 40 45

Asn Asp Gly Phe His Arg Phe Met Asn Ser Ala Lys Tyr Phe Asn Tyr
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Thr Val Lys Val Leu Gly Gln Gly Gln Glu Trp Arg Gly Gly Asp Gly
65 70 75 80

Met Asn Ser Ile Gly Gly Gly Gln Lys Val Arg Leu Met Lys Glu Ala
85 90 95

Met Glu His Tyr Ala Gly Gln Asp Asp Leu Val Ile Leu Phe Thr Glu
100 105 110

Cys Phe Asp Val Ile Phe Ala Gly Gly Pro Glu Glu Leu Leu Lys Lys
115 120 125

Phe Gln Lys Thr Asn His Lys Ile Val Phe Ala Ala Asp Ala Leu Leu
130 135 140

Trp Pro Asp Lys Arg Leu Ala Asp Lys Tyr Pro Gly Val His Ile Gly
145 150 155 160

Lys Arg Tyr Leu Asn Ser Gly Gly Phe Ile Gly Tyr Ala Pro Tyr Ile
165 170 175

Ser Arg Leu Val Gln Gln Trp Asp Leu Gln Asp Asn Asp Asp Asp Gln
180 185 190

Leu Phe Tyr Thr Lys Val Tyr Ile Asp Pro Leu Lys Arg Glu Ala Leu
195 200 205

Asn Ile Thr Leu Asp His Arg Cys Lys Ile Phe Gln Ala Leu Asn Gly
210 215 220

Ala Thr Asp Glu Val Val Leu Lys Phe Glu Asn Gly Lys Ser Arg Val
225 230 235 240

Lys Asn Thr Phe Tyr Glu Thr Leu Pro Val Ala Ile Asn Gly Asn Gly
245 250 255

Pro Thr Lys Ile Leu Leu Asn Tyr Phe Gly Asn Tyr Val Pro Asn Ser
260 265 270

Trp Thr Gln Glu Asn Gly Cys Ala Leu Cys Asp Phe Asp Thr Ile Asp
275 280 285

Leu Ser Thr Val Asp Val Tyr Pro Lys Val Thr Leu Gly Val Phe Ile
290 295 300

Glu Gln Pro Thr Pro Phe Leu Pro Arg Phe Leu Asp Leu Leu Leu Thr
305 310 315 320

Leu Asp Tyr Pro Lys Glu Ala Leu Arg Leu Phe Val His Asn Lys Glu
325 330 335

Val Tyr His Glu Lys Asp Ile Lys Ala Phe Val Asp Lys Ala Lys His
340 345 350

Asp Ile Ser Ser Ile Lys Ile Val Gly Pro Glu Glu Asn Leu Ser Gln
355 360 365

Ala Glu Ala Arg Asn Met Gly Met Asp Phe Cys Arg Gln Asp Glu Lys
370 375 380

Cys Asp Tyr Tyr Phe Ser Val Asp Ala Asp Val Val Leu Thr Asn Pro
385 390 395 400

Arg Thr Leu Lys Ile Leu Ile Glu Gln Asn Arg Lys Ile Ile Ala Pro
405 410 415

Leu Val Thr Arg His Gly Lys Leu Trp Ser Asn Phe Trp Gly Ala Leu
420 425 430

Ser Pro Asp Gly Tyr Tyr Ala Arg Ser Glu Asp Tyr Val Asp Ile Val
435 440 445

Gln Gly Asn Arg Val Gly Ile Trp Asn Val Pro Tyr Met Ala Asn Val
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Tyr Leu Ile Gln Gly Lys Thr Leu Arg Ser Glu Met Ser Glu Arg Asn
465 470 475 480

Tyr Phe Val Arg Asp Lys Leu Asp Pro Asp Met Ser Leu Cys Arg Asn
485 490 495

Ala Arg Asp Met Thr Leu Gln Arg Glu Lys Asp Ser Pro Thr Pro Glu
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Thr Phe Gln Met Leu Ser Pro Pro Lys Gly Val Phe Met Tyr Ile Ser
515 520 525

Asn Arg His Glu Phe Gly Arg Leu Ile Ser Thr Ala Asn Tyr Asn Thr
530 535 540

Ser His Leu Asn Asn Asp Leu Trp Gln Ile Phe Glu Asn Pro Val Asp
545 550 555 560

Trp Lys Glu Lys Tyr Ile Asn Arg Asp Tyr Ser Lys Ile Phe Thr Glu
565 570 575

Asn Ile Val Glu Gln Pro Cys Pro Asp Val Phe Trp Phe Pro Ile Phe
580 585 590

Ser Glu Arg Ala Cys Asp Glu Leu Val Glu Glu Met Glu His Tyr Gly
595 600 605

Lys Trp Ser Gly Gly Lys His His Asp Ser Arg Ile Ser Gly Gly Tyr
610 615 620

Glu Asn Val Pro Thr Asp Asp Ile His Met Lys Gln Ile Asp Leu Glu
625 630 635 640

Asn Val Trp Leu His Phe Ile Arg Glu Phe Ile Ala Pro Val Thr Leu
 645 650 655

 Lys Val Phe Ala Gly Tyr Tyr Thr Lys Gly Phe Ala Leu Leu Asn Phe
 660 665 670

 Val Val Lys Tyr Ser Pro Glu Arg Gln Arg Ser Leu Arg Pro His His
 675 680 685

 Asp Ala Ser Thr Phe Thr Ile Asn Ile Ala Leu Asn Asn Val Gly Glu
 690 695 700

 Asp Phe Gln Gly Gly Gly Cys Lys Phe Leu Arg Tyr Asn Cys Ser Ile
 705 710 715 720

 Glu Ser Pro Arg Lys Gly Trp Ser Phe Met His Pro Gly Arg Leu Thr
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 His Leu His Glu Gly Leu Pro Val Lys Asn Gly Thr Arg Tyr Ile Ala
 740 745 750

 Val Ser Phe
 755

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 <213> Homo sapiens

<220>
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 His Gly Glu Gly Gly Gly Glu Glu Ala Ala Ala Ala Arg Glu Arg
 20 25 30

 gga tcg gcg tcc ggg gaa ccc ccg tct ggc tcc ggc cgc ggc aag aag 144
 Gly Ser Ala Ser Gly Glu Pro Pro Ser Gly Ser Gly Arg Gly Lys Lys
 35 40 45

 atc ttc ggc tgc tcc gag tgc gag aag ctg ttc cgc tca ccg cga gac 192
 Ile Phe Gly Cys Ser Glu Cys Glu Lys Leu Phe Arg Ser Pro Arg Asp

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Leu Glu Arg His Val Leu Val His Thr Gly Glu Lys Pro Phe Pro Cys			
65	70	75	80
ctg gag tgc ggc aag ttc ttc cgc cac gag tgc tac ctc aag cgc cac			288
Leu Glu Cys Gly Lys Phe Phe Arg His Glu Cys Tyr Leu Lys Arg His			
	85	90	95
cga ctg ctg cac ggc acc gag cgg ccc ttc cct tgc cac atc tgc ggc			336
Arg Leu Leu His Gly Thr Glu Arg Pro Phe Pro Cys His Ile Cys Gly			
	100	105	110
aag ggc ttc atc acg ctc agc aac ctc tcc agg cac ctg aag ctg cac			384
Lys Gly Phe Ile Thr Leu Ser Asn Leu Ser Arg His Leu Lys Leu His			
	115	120	125
cgg ggc atg gac tgactgccag gctgcgtgcg ccctgccctc caccagcct			436
Arg Gly Met Asp			
130			
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tccaaatcca gacgcaggcc ctgaaatgag gggaccctga ctggagaggt gggggccacc			556
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 <211> 132
 <212> PRT
 <213> Homo sapiens

<400> 15

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His Gly Glu Gly Gly Gly Glu Glu Ala Ala Ala Ala Ala Arg Glu Arg
 20 25 30

Gly Ser Ala Ser Gly Glu Pro Pro Ser Gly Ser Gly Arg Gly Lys Lys
 35 40 45

Ile Phe Gly Cys Ser Glu Cys Glu Lys Leu Phe Arg Ser Pro Arg Asp
 50 55 60

Leu Glu Arg His Val Leu Val His Thr Gly Glu Lys Pro Phe Pro Cys
 65 70 75 80

Leu Glu Cys Gly Lys Phe Phe Arg His Glu Cys Tyr Leu Lys Arg His
 85 90 95

Arg Leu Leu His Gly Thr Glu Arg Pro Phe Pro Cys His Ile Cys Gly
 100 105 110

Lys Gly Phe Ile Thr Leu Ser Asn Leu Ser Arg His Leu Lys Leu His
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Arg Gly Met Asp
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<210> 16
 <211> 580
 <212> DNA
 <213> Homo sapiens

<400> 16

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 <211> 120
 <212> PRT
 <213> Homo sapiens

<400> 17

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			20					25					30		
Phe	His	Arg	Gln	Phe	Leu	Leu	Gln	Gly	Arg	Leu	Asn	Gln	Ala	Lys	Ile
			35				40					45			
Asn	Thr	His	Trp	Tyr	Thr	Trp	Leu	Pro	Thr	Asn	Phe	Ile	Cys	Ile	Tyr
	50					55					60				
Ile	Phe	Tyr	Phe	Gln	His	Pro	His	Ser	Ser	Trp	Phe	Asn	Gln	Ser	Leu
65					70					75				80	
Val	Leu	Ala	Asn	Asn	Lys	Leu	Val	Arg	Arg	Ser	Lys	Val	Val	Asp	Val
				85					90					95	
Cys	Thr	Trp	Leu	Pro	Trp	Arg	Ser	Ser	Gly	Asp	Ser	Leu	Phe	Gln	Asn
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 <212> DNA
 <213> Homo sapiens

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 ctgttggcct cagtattact ggattgaaga attgctgctt cttgttagga gggttcatttc 240

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<213> Artificial

<220>
<223> Repeated unit in SEQ ID NO:1

<220>
<221> misc_feature
<222> (3)..(3)
<223> Xaa is Asp or Ser

<400> 20

Gly Gly Xaa Phe Gly Gly
1 5

<210> 21
<211> 551
<212> PRT
<213> Homo sapiens

<400> 21

Met Ala Glu Gly Glu Asn Glu Val Arg Trp Asp Gly Leu Cys Ser Arg
1 5 10 15

Asp Ser Thr Thr Arg Glu Thr Ala Leu Glu Asn Ile Arg Gln Thr Ile
20 25 30

Leu Arg Lys Thr Glu Tyr Leu Arg Ser Val Lys Glu Thr Pro His Arg
35 40 45

Pro Ser Asp Gly Leu Ser Asn Thr Glu Ser Ser Asp Gly Leu Asn Lys
50 55 60

Leu Leu Ala His Leu Leu Met Leu Ser Lys Arg Cys Pro Phe Lys Asp
65 70 75 80

Val Arg Glu Lys Ser Glu Phe Ile Leu Lys Ser Ile Gln Glu Leu Gly
85 90 95

Ile Arg Ile Pro Arg Pro Leu Gly Gln Gly Pro Ser Arg Phe Ile Pro
100 105 110

Glu Lys Glu Ile Leu Gln Val Gly Ser Glu Asp Ala Gln Met His Ala
115 120 125

Leu Phe Ala Asp Ser Phe Ala Ala Leu Gly Arg Leu Asp Asn Ile Thr
130 135 140

Leu Val Met Val Phe His Pro Gln Tyr Leu Glu Ser Phe Leu Lys Thr

145		150		155		160
Gln His Tyr Leu	Leu Gln Met Asp Gly	Pro Leu Pro Leu His Tyr Arg				
	165	170			175	
His Tyr Ile Gly	Ile Met Ala Ala Ala Arg His Gln Cys Ser Tyr Leu					
	180	185			190	
Val Asn Leu His	Val Asn Asp Phe Leu His Val Gly Gly Asp Pro Lys					
	195	200			205	
Trp Leu Asn Gly	Leu Glu Asn Ala Pro Gln Lys Leu Gln Asn Leu Gly					
	210	215			220	
Glu Leu Asn Lys	Val Leu Ala His Arg Pro Trp Leu Ile Thr Lys Glu					
	225	230			235	240
His Ile Glu Gly	Leu Leu Lys Ala Glu Glu His Ser Trp Ser Leu Ala					
	245	250			255	
Glu Leu Val His	Ala Val Val Leu Leu Thr His Tyr His Ser Leu Ala					
	260	265			270	
Ser Phe Thr Phe	Gly Cys Gly Ile Ser Pro Glu Ile His Cys Asp Gly					
	275	280			285	
Gly His Thr Phe	Arg Pro Pro Ser Val Ser Asn Tyr Cys Ile Cys Asp					
	290	295			300	
Ile Thr Asn Gly	Asn His Ser Val Asp Glu Met Pro Val Asn Ser Ala					
	305	310			315	320
Glu Asn Val Ser	Val Ser Asp Ser Phe Phe Glu Val Glu Ala Leu Met					
	325	330			335	
Glu Lys Met Arg	Gln Leu Gln Glu Cys Arg Asp Glu Glu Glu Ala Ser					
	340	345			350	
Gln Glu Glu Met	Ala Ser Arg Phe Glu Ile Glu Lys Arg Glu Ser Met					
	355	360			365	
Phe Val Phe Ser	Ser Asp Asp Glu Glu Val Thr Pro Ala Arg Ala Val					
	370	375			380	
Ser Arg His Phe	Glu Asp Thr Ser Tyr Gly Tyr Lys Asp Phe Ser Arg					
	385	390			395	400
His Gly Met His	Val Pro Thr Phe Arg Val Gln Asp Tyr Gln Trp Glu					
	405	410			415	
Asp His Gly Tyr	Ser Leu Val Asn Arg Leu Tyr Pro Asp Val Gly Gln					
	420	425			430	
Leu Ile Asp Glu	Lys Phe His Ile Ala Tyr Asn Leu Thr Tyr Asn Thr					
	435	440			445	
Met Ala Met His	Lys Asp Val Asp Thr Ser Met Leu Arg Arg Ala Ile					
	450	455			460	

Trp Asn Tyr Ile His Cys Met Phe Gly Ile Arg Tyr Asp Asp Tyr Asp
465 470 475 480

Tyr Gly Glu Ile Asn Gln Leu Leu Asp Arg Ser Phe Lys Val Tyr Ile
485 490 495

Lys Thr Val Val Cys Thr Pro Glu Lys Val Thr Lys Arg Met Tyr Asp
500 505 510

Ser Phe Trp Arg Gln Phe Lys His Ser Glu Lys Val His Val Asn Leu
515 520 525

Leu Leu Ile Glu Ala Arg Met Gln Ala Glu Leu Leu Tyr Ala Leu Arg
530 535 540

Ala Ile Thr Arg Tyr Met Thr
545 550